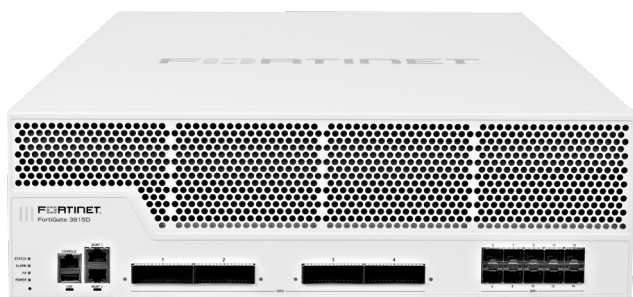


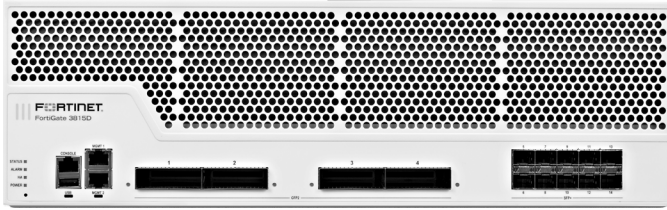
FORTINET®



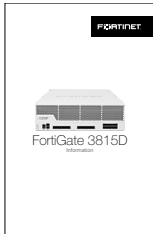
FortiGate 3815D

Information

Box Includes



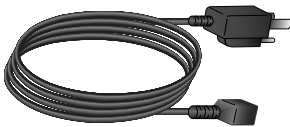
FortiGate 3815D



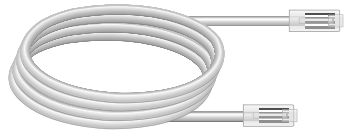
Information Supplement



The FortiGate Cookbook



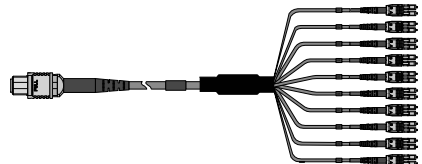
2 Power Cables
(AC models only)



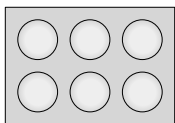
Ethernet Cable



Console Cable



100G SR-10 Fan-out 10 Pairs LC Cable



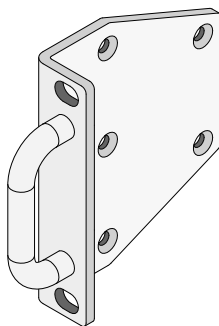
6 Rubber Feet



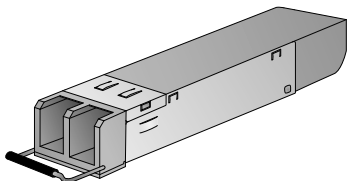
8 Bracket Screws



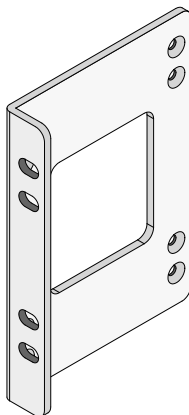
Slide Rails



2 Front Handles

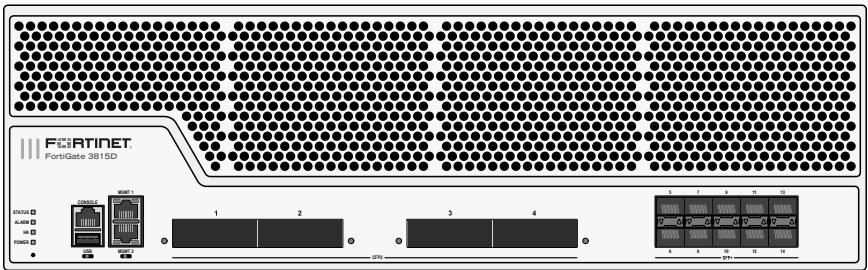


2 SFP+ SR Transceivers



2 Middle Rack Mount Brackets

Device Guide



CFP2 Ports 1 - 4 (LR4/SR10)
100G NP accelerated ports

SFP Ports (SFP+)
10Gbps small form-factor pluggable
transceiver ports

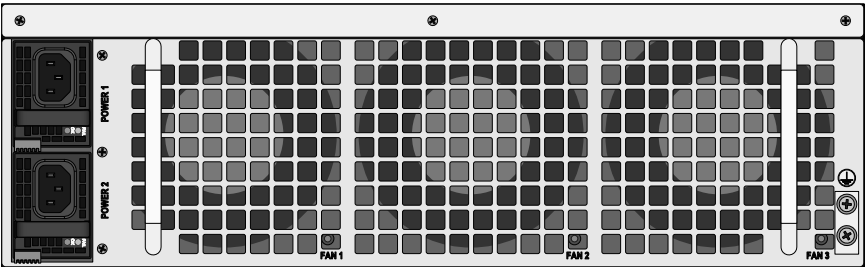
MGMT 1 & 2 (RJ-45)
Client ports for management
Default IP address of MGMT 1 is 192.168.1.99

Console (RJ-45)
Optional connection to the management computer
Provides access to the CLI

USB (USB A) 
USB server port

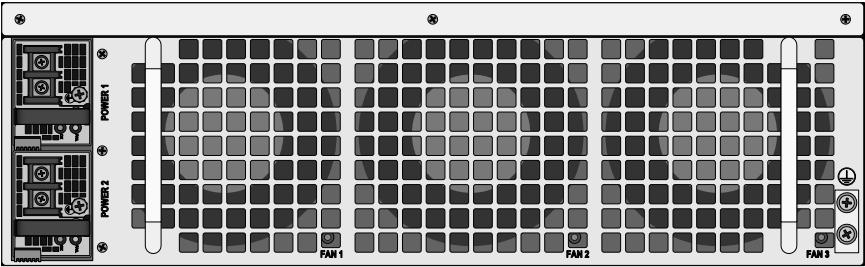
Power

100-240V AC, 12-9A, 50-60Hz
redundant power supplies



DC Power

-48V DC, 30A, redundant power supplies



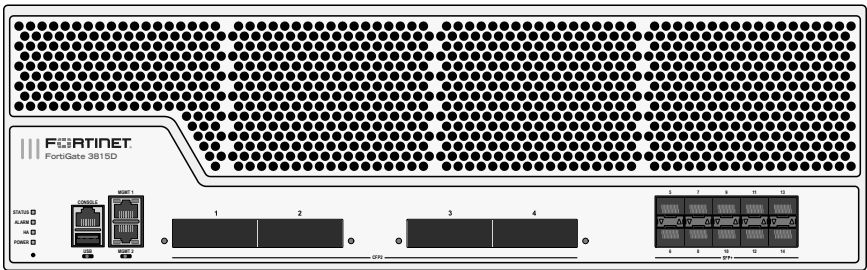
Device Guide

Logo

- Green: The unit is on
- Off: The unit is off

CFP2 Ports

- Green: Connected
- ⦿ Flashing Green: Transmitting & receiving data
- Off: No link established



SFP Ports

- Green: Connected
- ⦿ Flashing Green: Transmitting & receiving data
- Off: No link established

MGMT Ports Link/Activity

- Green: Connected
- ⦿ Flashing Green: Transmitting & receiving data
- Off: No link established

MGMT Ports Speed

- Green: Connected at 1Gbps
- Amber: Connected at 100Mbps
- Off: Connected at 10Mbps or not in use

Status

- Green: Normal
- ⦿ Flashing Green: Booting up
- Red: The unit has a major alarm

Alarm

- Red: The unit has a major alarm
- Amber: The unit has a minor alarm
- Off: The unit is operating normally

HA

- Green: Operating in an HA cluster
- Red: HA failure
- Off: Not in an HA cluster

Power

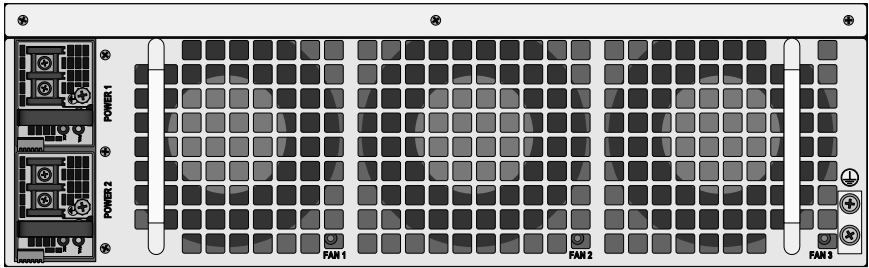
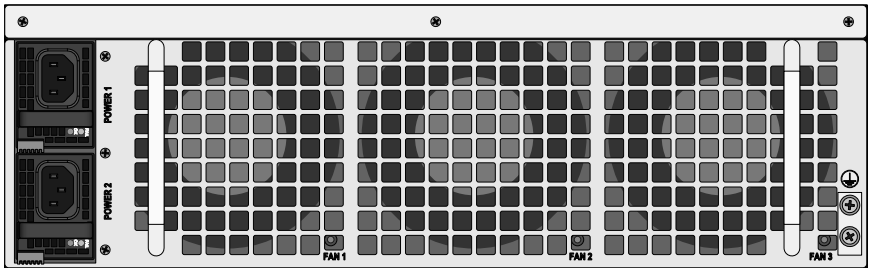
- Green: The unit is on
- Off: The unit is off

OK

- Green: Power supply providing power
- ☀ Flashing Green: Power supply not providing power
- Off: Error or no power

FAIL

- Amber: Main output or fan error
- ☀ Flashing Amber: Power supply warning event
- Off: No errors or no power



OK

- Green: Standby rail and main output on
- ☀ Flashing Green: Standby rail on and main output off
- Off: Error or no power

FAIL

- Amber: Main output or fan error
- ☀ Flashing Amber: Power supply warning event
- Off: No errors or no power

Installation

The FortiGate unit can be mounted in any standard 19 inch rack unit with the provided mounting hardware. AC models can also be surface mounted.

Please read the "Cautions and Warnings" on page 12 before installing your device.

For more detailed installation instructions, see the Hardware Acceleration Guide available in the Fortinet Document Library (<http://docs.fortinet.com>).

Caution: Electrostatic discharge (ESD) can damage your Fortinet equipment.

To avoid personal injury or damage to the unit, it is recommended that two or more people install the unit into the rack.

Please consult a licensed electrician before connecting this product to a DC power source, or hire a licensed electrician to perform all connections (DC models only).

Do not place heavy objects on the unit.

Note: Each power cable should be connected to a different power source. In this way, if one power source fails, the other may still be operational and the unit will not lose power.

This product has a separate protective earthing terminal provided on the back of the product in addition to the grounding terminal of the attachment plug. This separate protective earthing terminal must be permanently connected to earth with a green with yellow stripe conductor minimum size # 6 AWG and the connection is to be installed by a qualified service personnel.

DC models only:

Note: This product is only intended for installation and use in a Restricted Access Location.

The DC power cables are intended to be used only for in-rack wiring, must be routed away from sharp edges, and must be adequately fixed to prevent excessive strain on the wires and terminals.

DC cables must be a minimum of 8 AWG.

Four Post Rack-Mount Installation

1. Using the supplied hardware, attach the inner slide rails to each side of the unit, and attach the outer slide rails to the rack.
2. Attach the front handles to each side of the unit using eight bracket screws.
3. Ensure there is enough room around the unit to allow for sufficient air flow.
4. Slide the unit into your equipment rack.
5. For AC models, plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.
For DC models, connect cables to the rear of the unit and then into your DC power source.

Two Post Rack-Mount Installation

1. Attach the middle mounting brackets to each side of the unit using eight bracket screws.
2. Ensure there is enough room around the unit to allow for sufficient air flow.
3. Secure the unit into your equipment rack
4. For AC models, plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.
For DC models, connect the cables to the rear of the unit and then into your DC power source.

Surface-Mount Installation (AC models only)

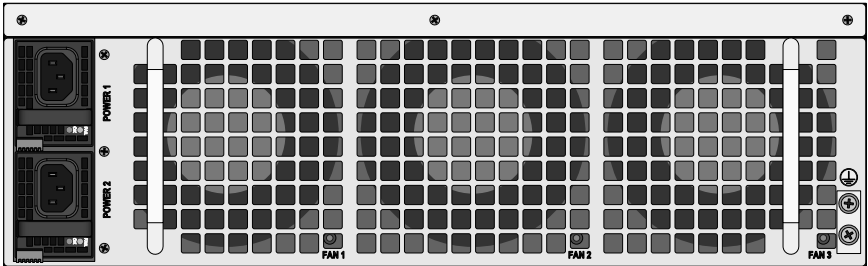
1. Ensure that the surface onto which the FortiGate unit to be installed is clean, level, and stable and that there is at least 1.5in (3.8cm) of clearance on all sides to allow for adequate airflow.
2. Attach the six provided rubber feet to the bottom of the FortiGate unit.
3. Place the unit in the designated location.
4. Verify that the spacing around the FortiGate unit conforms to requirements and that the unit is level.
5. Plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.

NEBS Supplemental Unit Bonding and Grounding Guidelines

To meet Network Equipment Building System (NEBS) and safety compliance requirements, the grounding point on the back of the device must be permanently connected to the central office or interior equipment grounding system.

Use the following parts to ensure a satisfactory ground connection to the FortiGate 3815D device:

- One UL Listed grounding lug with two M5 bolt holes with 15.88mm (0.625in) spacing between them
- A wire receptacle that accepts 6 AWG or larger, multistrand copper wire
- One grounding wire that is at least 6 AWG multistrand copper wire. The wire diameter and length depend on the device location and site environment
- Two screws with lock washers (provided).



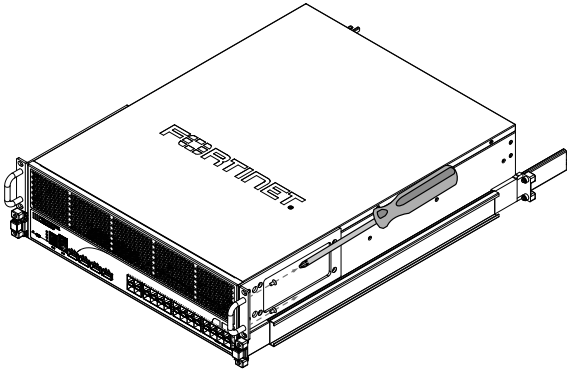
Grounding Point

NEBS Optional Air Filter Installation

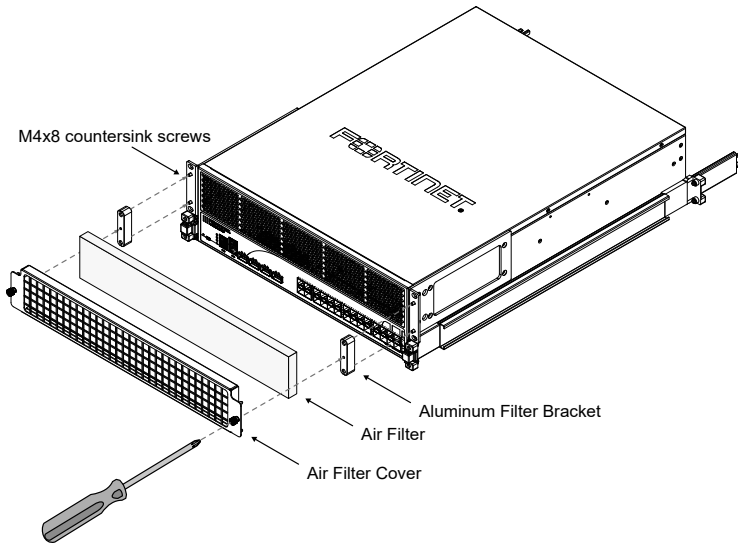
An air filter can be purchased to cover the front air intakes of the device.

To connect the air filter:

1. Remove the ears from the rack-mount brackets using an appropriate screwdriver.



2. Attach the Aluminum Filter Brackets to the rack-mount brackets using four provided M4x8 flat head countersink screws.
3. Insert the Air Filter into the Air Filter Cover, then screw the cover onto the filter brackets using an appropriate screwdriver.



Cautions and Warnings

Environmental specifications

Ambient operating temperature: 0C to 40C

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

Instructions de montage en rack - Les instructions de montage en rack suivantes ou similaires sont incluses avec les instructions d'installation:

Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
Température ambiante élevée – S'il est installé dans un rack fermé ou à unités multiples, la température ambiante de fonctionnement de l'environnement du rack peut être supérieure à la température ambiante de la pièce. Par conséquent, il est important d'installer le matériel dans un environnement respectant la température ambiante maximale (Tma) stipulée par le fabricant.

Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Ventilation réduite - Installation de l'équipement dans un rack doit être telle que la quantité de flux d'air nécessaire au bon fonctionnement de l'équipement n'est pas compromise.

Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
Chargement Mécanique – Montage de l'équipement dans le rack doit être telle qu'une situation dangereuse n'est pas liée à un chargement mécanique inégal.

Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Surtenstion – Il convient de prendre l'ensemble des précautions nécessaires lors du branchement de l'équipement au circuit d'alimentation et être particulièrement attentif aux effets de la suralimentation sur le dispositif assurant une protection contre les courts-circuits et le câblage. Ainsi, il est recommandé de tenir compte du numéro d'identification de l'équipement.

Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).
Fiabilité de la mise à la terre - Fiabilité de la mise à la terre de l'équipement monté en rack doit être maintenue. Une attention particulière devrait être accordée aux connexions d'alimentation autres que les connexions directes au circuit de dérivation (par exemple de l'utilisation de bandes de puissance).

Refer to specific Product Model Data Sheet for Environmental Specifications (Operating Temperature, Storage Temperature, Humidity, and Altitude).

Référez à la Fiche Technique de ce produit pour les caractéristiques environnementales (Température de fonctionnement, température de stockage, humidité et l'altitude).

Safety

Warning: Equipment intended for installation in Restricted Access Location.
Avertissement: Le matériel est conçu pour être installé dans un endroit où l'accès est restreint.

Warning: A readily accessible disconnect device shall be incorporated in the building installation wiring.

Avertissement: Un dispositif de déconnexion facilement accessible doit être incorporé dans l'installation électrique du bâtiment.

Battery – Risk of explosion if the battery is replaced by an incorrect type. Do not dispose of batteries in a fire. They may explode. Dispose of used batteries according to your local regulations. IMPORTANT: Switzerland: Annex 4.10 of SRB14.013 applies to batteries.

Batterie – Risque d'explosion si la batterie est remplacée par un type incorrect. Ne jetez pas les batteries au feu. Ils peuvent exploser. Jetez les piles usagées conformément aux réglementations locales. IMPORTANT: Suisse: l'annexe 4.10 de SRB14.013 s'appliquent aux batteries.

警告
本電池如果更換不正確會有爆炸的危險
請依製造商說明書處理用過之電池

Caution: Disconnect power supply cords before servicing

Attention: Débranchez les cordons de la source d'alimentation avant tout entretien.

Grounding — To prevent damage to your equipment, connections that enter from outside the building should pass through a lightning / surge protector, and be properly grounded. Use an electrostatic discharge workstation (ESD) and/or wear an anti-static wrist strap while you work. In addition to the grounding terminal of the plug, on the back panel, there is another, separate terminal for earthing.

Mise à la terre — Pour éviter d'endommager votre matériel, assurez-vous que les branchements qui entrent à partir de l'extérieur du bâtiment passent par un parafoudre / parasurtenseur et sont correctement mis à la terre. Utilisez un poste de travail de décharge électrostatique (ESD) et / ou portez un bracelet anti-statique lorsque vous travaillez. Ce produit possède une borne de mise à la terre qui est prévu à l'arrière du produit, à ceci s'ajoute la mise à la terre de la prise.

This product has a separate protective earthing terminal provided on the back of the product in addition to the grounding terminal of the attachment plug. This separate protective earthing terminal must be permanently connected to earth with a green with yellow stripe conductor minimum size # 6 AWG and the connection is to be installed by a qualified service personnel.
Ce produit a une borne de mise à la terre séparée sur le dos de l'appareil, en plus de la borne de mise à la terre de la fiche de raccordement. Cette borne de mise à la terre séparée doit être connectée en permanence à la terre avec un conducteur vert avec la taille bande jaune de minimum # 6 AWG et la connexion doit être installée par un personnel qualifié.

Fiber optic transceiver must be rated 3.3V, 22mA max, Laser Class 1, UL certified component.
Le transceiver optique doit avoir les valeurs nominales de 3.3 V, maximum 22 mA, Laser Class 1, homologué UL.

NEBS:

WARNING: The intra-building ports of the FortiGate 3815D equipment or subassembly are suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly MUST NOT be metalically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE, Issue 6) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metalically to OSP wiring.

WARNING: The FortiGate 3815D shall be connected to and external Special Protection Devices (SPD) when installed and connected to commercial AC power.

The FortiGate 3815D shall be located in a restricted access location were only crafts personnel are allowed access.

FortiGate 3815D utilizes a UL Listed two-hole with a size of 6-10AWG that utilizes 4N-m to secure the frame and EUT.

The FortiGate 3815D shall be installed and connected to the CBN.

The FortiGate 3815D is suitable for connection to the Central Office and locations where NEC applies.

The battery returns of the FortiGate 3815D shall be connected as DC-I.

The FortiGate 3815D shall be grounded via a copper ground conductor.

All bare grounding connection points to the FortiGate 3815D shall be cleaned and coated with an anti-oxidant solution before connections are made.

All surfaces on the FortiGate 3815D that are un-plated shall be brought to a bright finish and treated with and anti-oxidant solution before connections is made.

All non-conductive surfaces on the FortiGate 3815D shall be removed from all threads and connection points to ensure electrical continuity.

The FortiGate 3815D is capable of operating at 100-240Vac or -48Vdc at a maximum current level 12-9A for AC or 30A for DC.

Regulatory Compliance

Federal Communication Commission (FCC) – USA

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received; including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING: Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (A) / NMB-3 (A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Conformity (CE) - EU

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Product Safety Electrical Appliance & Material (PSE) – Japan

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Voluntary Control Council for Interference (VCCI) – Japan

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Bureau of Standards Metrology and Inspection (BSMI) – Taiwan

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China

此為A級產品，在生活環境中，該產品可能會造成無線電干擾。這種情況下，可能需要用戶對其採取切實可行的措施。

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.) Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for your own use and reverse engineering for debugging such modifications. You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need

not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable. It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

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